UNITED STATES PATENT AND TRADEMARK OFFICE

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FISH & RICHARDSON, PC
P.O. BOX 1022
MINNEAPOLIS, MN 55440-1022

EXAMINER
HOANG, HIEU T

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>05 June 2008</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-36</u> is/are pending in the application.

    4a) Of the above claim(s) <u>10-12 and 22-27</u> is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-9, 13-21 and 28-36</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the communication filed on 06/05/2008.

2.   Claims 1-9, 13-21 and 28-36 are presented for examination.

Response to Amendment

3.   The objection of claims 1-9, 17-21, 28-36 has been withdrawn.

4.   The 35 U.S.C. 101 rejection of claims 13-16 has been withdrawn due to the amendment.

5.   The 35 U.S.C. 112 rejection of claims 31-33 has been withdrawn due to the amendment.

Response to Arguments

6.   Applicant's arguments have been fully considered but they are not persuasive. In summary, there is one main argument in the Remarks wherein the applicant argues that the prior art does not teach indexing both a first table and a second table by a first pointer. The examiner respectfully disagrees. Refer to Basso, fig. 3, abstract lines 11-17, col. 4 lines 26-34, col. 6 lines 33-44, a current index points to a cyclic table (first table) is linked to one chain of a plurality chains of timers (second table). Once the current index is incremented, the chain pointed to by the incremented index is a new chain, or the new chain of timers is pointed to by the incremented index that indexes the cyclic table according to time. The current index is used to add a new timer control block (or timer) TCB to the timer chains, the chain number <u>or</u> the index of the cyclic table to

which the TCB has to be added is relative to the current chain. In other words, the index

of the cyclic table and the index of the chain to which TCB is installed are the same, or

they are pointed to be a same pointer, which is used to install the TCB, analogous to

applicant's invention shown in fig. 2--install index pointer.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8.   Claims 1-9, 13-17, 19-21 and 28-30 are rejected under 35 U.S.C. 102(b) as

being anticipated by Basso et al. (US 5,491,815, hereafter Basso).

9.   For claim 1, Basso discloses a method comprising:

        installing a timer by writing a status bit into a first table indexed by a first pointer

(fig. 3, col. 4 lines 16-33, abstract lines 13-17, col. 6 lines 33-44, each bit in a first table

(cyclic table) has a pointer to associated timer chain in a second table comprising of a

plurality of timer chains), and

        writing a value corresponding to timer information into a second table indexed by

the first pointer (fig. 3, col. 4 lines 16-33, abstract lines 13-17, col. 6 lines 33-44, storing

values of a timer such as Tf, Tv, Ts of a timer control block TCB to be installed in the

chain indexed by the pointer).

10.   For claims 13, 17 and 28, the claims are rejected for the same rationale as in

claim 1.

11.   For claim 2, Basso further discloses the value comprises a memory address of a

connection descriptor structure (col. 1 lines 65-66, col. 2 lines 47-59, memory address

of a connection).

12.   For claim 3, Basso further discloses the first table stores a plurality of status bits

including the status bit and the second table stores a plurality of values corresponding

to a like plurality of timers (fig. 3, plurality of bits in the cyclic table, second table 210

stores a plurality of timer values).

13.   For claim 4, Basso further discloses canceling the timer by changing the status

bit (abstract, lines 26-34, changing index value to delete a timer).

14.   For claim 5, Basso further discloses sending the value to a process to expire the

timer (col. 8 lines 45-65, sending out a notification if the remaining time is zero or timer

has expired).

15.   For claim 6, Basso further discloses expiring the timer comprises: reading the

value; determining whether the status bit has been changed; and sending a message

including the value to expire the timer if the status has not been changed (col. 8 lines

45-65, sending out a notification if the timer is still active and remaining time is zero or

timer has expired).

16.   For claim 7, Basso further discloses incrementing the first pointer and a second

pointer based on a clock (col. 4 lines 19-22, install index or insert index=current index

+Tv = first pointer, current index incremented using a clock is a second pointer,

abstract; second interpretation, first and second pointer can be same).

17.   For claim 8, Basso further discloses expiring the timer further comprises:

incrementing the second pointer; and incrementing the first pointer if a difference

between the first pointer and the second pointer is smaller than a pre-determined offset

(inherent if first and second pointers are one, the difference is zero and incrementing is

always done).

18.   For claim 9, Basso further discloses reading the value includes reading other

values in the second table adjacent to the value (fig. 3, read Tf, Tv, Ts of a TCB).

19.   For claims 14, 19, 29, the claims are rejected for the same rationale as in claim

3.

20.   For claims 15, 20, 30, the claims are rejected for the same rationale as in claim

4.

21.   For claims 16, 21, the claims are rejected for the same rationale as in claim 5.

Claim Rejections - 35 USC § 103

22.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23.   Claims 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Basso, in view of Sharp (US 2005/0182841).

24.   For claim 31, Basso discloses a system comprising:

Instructions to install a timer by writing a status bit into a first table in a memory,

the first table indexed by a first pointer (fig. 3, each bit in a main table has a pointer to

associated timers), and write a value corresponding to timer information into a second

table in memory, the second table indexed by the first pointer (fig. 3, values of a timer

such as Tf, Tv, Ts).

Basso does not disclose a network host having a network processor; a TCP

offload engine in communication with the network processor; and a wireless PHY device

in communication with the network processor; wherein the TCP offload engine is

configured to run the above instructions.

However, Sharp discloses the same (fig. 1, a network interface card containing a

TCP offload engine connecting to a PHY interface to a wireless network)

It would have been obvious for one skilled in the art combine the teachings of

Basso and Sharp to apply Basso's timer management scheme to Sharp's offload engine

to further enhance the functionality of the network device containing the offload engine.

25.   Claims 32 and 33, as applied to claim 31, are rejected for the same rationale as

in claims 3 and 4.

26.   Claims 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Basso, in view of Nguyen (US 5,442,627).

27.   For claim 34, Basso discloses a method comprising:

        installing a timer by writing a status bit into a first table in a memory, the first table

indexed by a first pointer (fig. 3, each bit in a main table has a pointer to associated

timers), and

        writing a value corresponding to timer information into a second table in memory,

the second table indexed by the first pointer (fig. 3, values of a timer such as Tf, Tv, Ts);

and

        Basso does not explicitly disclose:

receiving a first data packet from a source;

sending a second data packet to the source for acknowledging receipt of the first

data packet, after the timer has expired.

However, Nguyen discloses a delayed ACK timer in a TCP protocol wherein

upon expiration of the timer, a message is returned to the source acknowledging the

receipt of the first data packet (fig. 5, sending an ACK upon the expiration of the delay

ACK timer).

It would have been obvious for one skilled in the art to acknowledge a reception

of data packet(s) by applying delayed ACK timers as disclosed by Nguyen in the timer

management scheme of Basso to reduce networking overhead (Nguyen, abstract).

28.   Claims 35 and 36, as applied to claim 34, are rejected for the same rationale as

in claims 3 and 4.

29.   Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Basso,

as applied to claim 17, in view of what was known in the art.

30.   For claim 18, the claim is rejected as in claim 17. Basso does not disclose the

processor comprises a microengine array.

Official Notice is taken that a microengine array processor was well-known in the

art at the time the invention was made (see Vipat et al. Intel Technical Journal, fig. 2).

It would have been obvious for one skilled in the art combine the teachings of Basso and what has been known in the art use a microengine array processor as the offload engine to further enhance the processing power and functionality of the network device containing the offload engine.

Conclusion

31.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

32.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HH

/Bunjob Jaroenchonwanit/
Supervisory Patent Examiner, Art Unit 2152